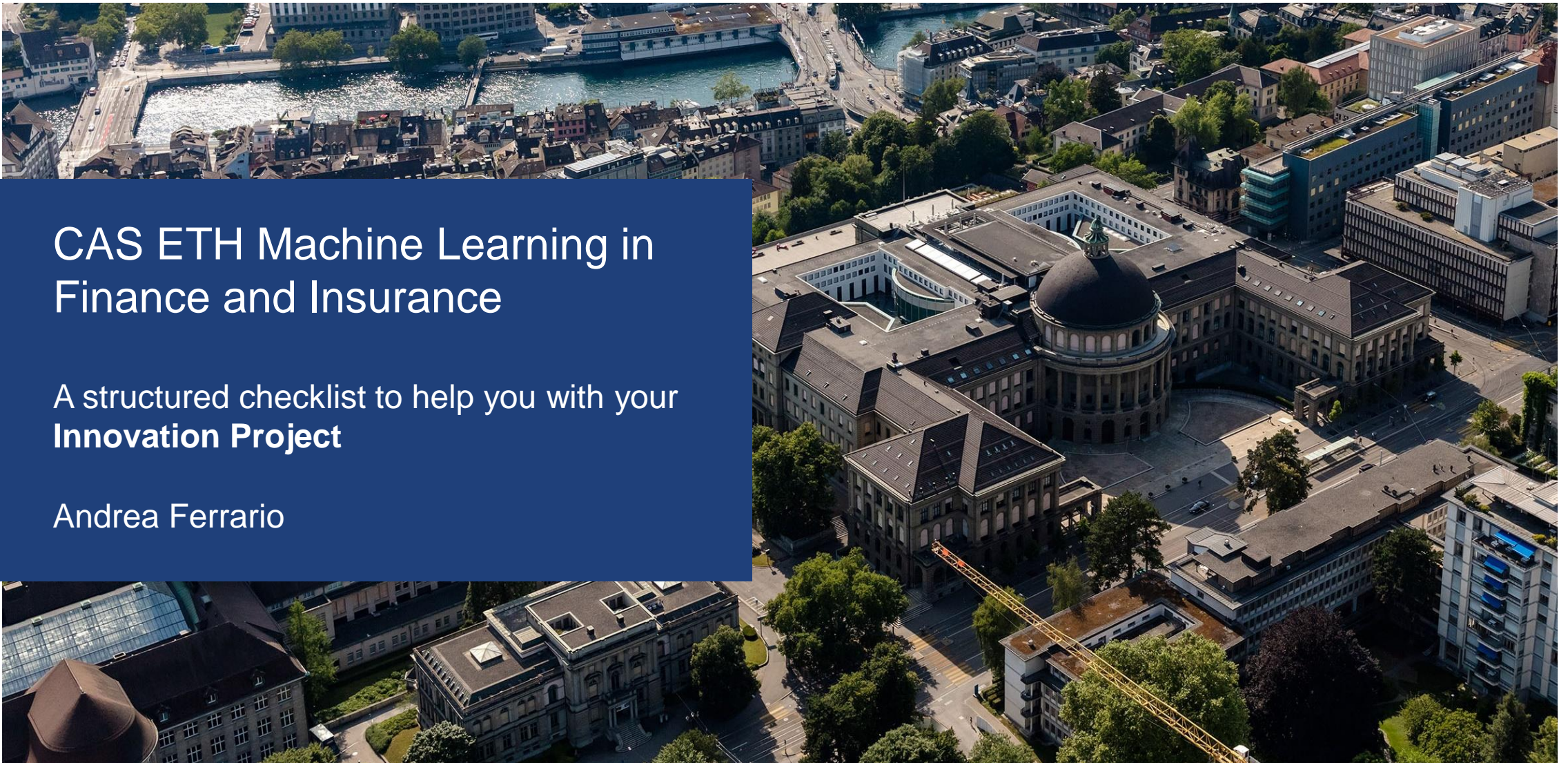


CAS ETH Machine Learning in Finance and Insurance

A structured checklist to help you with your
Innovation Project

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While shaping your **Innovation Project** you can try answering the following questions

<p>1. Business Problem/Opportunity</p> <p><i>What is the industry you choose for your project?</i></p> <p><i>What is the goal you want to achieve?</i></p> <p><i>Why is the goal relevant for the industry at hand?</i></p> <p><i>What are the pain points/problems that achieving your goal will help overcoming?</i></p> <p><i>What about competitors (if any)? Where do they stand? Have they already pushed for machine learning-based innovation, like in your project?</i></p> <p><i>Does the solution of your (business) problem require a machine learning-based approach? Convince me.</i></p>	<p>2. Decisions Assisted by the Model Predictions</p> <p><i>Who are the decision-makers in your project?</i></p> <p><i>Which actions will the decision-makers take based on the ML model predictions?</i></p>	<p>4. Data Sources</p> <p><i>Which data do you need to collect?</i></p> <p><i>Are the sources external, and/or internal?</i></p> <p><i>Are data collected in real-time, or offline (e.g., in batches)?</i></p> <p><i>What is the structure of raw data? Tabular/images/text or others?</i></p> <p><i>What would you need to collect data, in terms of software and hardware? E.g., a web-crawler, APIs, online platforms, wearables, medical systems</i></p> <p><i>Which features are needed for modeling? How are they computed from raw data?</i></p>	<p>5. Machine Learning Modeling</p> <p><i>Which machine learning pipeline do you need to compute predictions? Design it!</i></p> <p><i>Which performance measures do you use to evaluate your models? Why are they appropriate for your problem?</i></p> <p><i>Which benchmark (not necessarily other machine learning models!) do you use and why?</i></p> <p><i>Show that you avoided machine learning malpractices!</i></p> <p><i>How does a prediction look like?</i></p> <p><i>What is the frequency at which predictions are computed? When to retrain the models?</i></p>
	<p>3. Costs and Performance KPIs</p> <p><i>Which are the cost sources of your project?</i></p> <p><i>Can you provide a quantification of these costs? (Be creative!)</i></p> <p><i>How do you measure success of your project? Which are the performance KPIs and why?</i></p>	<p>6. Human resources</p> <p><i>Who is needed for your project? Internal and/or external professionals? End-users? Others?</i></p> <p><i>Which type of professionals? Be creative!</i></p>	<p>7. External Stakeholders</p> <p><i>Who is impacted by the machine learning predictions and the subsequent decisions? (E.g., customers, patients, public opinion, Anakin Skywalker)</i></p>

